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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,516	03/12/2007	Kazuya Koyama	0425-1259PUS1	5146
2292 7590 11/03/2009 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
EXAMINER CLEMENTE, ROBERT ARTHUR				
ART UNIT		PAPER NUMBER		
1797				
NOTIFICATION DATE		DELIVERY MODE		
11/03/2009		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/578,516

Applicant(s)

KOYAMA ET AL.

Examiner

ROBERT A. CLEMENTE

Art Unit

1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2009.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 4-14 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1 and 4-14 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 22 July 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/5508)
Paper No(s)/Mail Date 20090520
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1, 4 - 14 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 4 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. Claim 4 is written to depend from itself and thus is indefinite. Claim 5 depends from claim 4 and is also rejected.

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
6. Claims 1, 4, 6 - 12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese publication No. JP 2001-301561 to Ota (provided in IDS received May 8, 2006) in view of Japanese publication No. JP 3041850-U, hereinafter referred to as JP '850 (provided in IDS received May 20, 2009).

In regard to claim 1, Ota teaches a filter for an air bag gas generator, as discussed in paragraphs [0001] and [0002]. As shown in figure 2, Ota discloses a filter having two layers (3, 4). The inner layer (3) is made from a wire rod (31) with a larger cross-sectional area than the wire rod (41) of the outer layer (4). As disclosed in paragraph [0007], the wire rod (31) of the inner layer (3) can have a diameter in the range of 0.3 to 0.6 mm, which gives a cross-sectional area of about 0.07 to 0.3 mm², which falls within the claimed range of 0.03 to 0.8 mm². As shown in figure 2 and discussed in paragraph [0029], the wire rod (31) of the inner layer (3) is helically wound in such a way that a pitch angle of wire rods vertically superposed in the radial direction is symmetrical. As shown in figure 2 and discussed in paragraph [0030], the second layer is formed on the outside of the first layer (3) in the radial direction and formed by a wire (41) having a smaller cross-sectional area so that the second layer has a finer filter particle size than the first layer. Ota does not disclose providing a third layer. As shown in figure 1 and discussed in paragraph [0014], JP '850 discloses a similar filter having three layers (32a, 32b, 32c). The inner layer (32c) is a coarse layer and the second layer (32b) is a finer layer. The outer layer (32a) is another coarse layer and provides additional strength and support to the filter.

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Ota to include a coarse outer layer formed from a wire rod having a larger cross-sectional area than the wire rod of the second layer as suggested by JP '850 in order to provide a filter having increased strength and more support for the fine layer.

In regard to claim 4, in the combination, a third outer layer is included in Ota. This layer would be made in the same manner as the inner layers by helically winding a wire rod around the inner layers in such a way that the pitch angle of the wire rods vertically superposed in the radial direction is symmetrical.

In regard to claim 6, as shown in figure 2 of Ota, the intersecting angle of the wire rods of the both layers (3, 4) vertically superposed in the radial direction is greater than 0 degrees and no more than 90 degrees.

In regard to claim 7, as shown in figure 2 of Ota, the wire rod (31) forming the first layer and helically wound and vertically superposed in the radial direction, the section vertically superposed in the radial direction is formed flat.

In regard to claim 8, as shown in figure 2 of Ota, the second layer (4) can be considered to project from an axial end surface of a filter formed in a cylindrical shape, as broadly recited in the claim, because "projects" can broadly be defined as displays outwardly.

In regard to claim 9, in paragraph [0007], Ota discloses using a wire rod with a diameter in the range of 0.1 to 0.3 mm for the second filter layer, which falls within the claimed range of 0.02 to 0.7 mm.

In regard to claim 10, the filter of Ota and JP '850 includes all of the structural limitations in claim 1 of the instant application and inherently can be used with a combustion temperature of not more than 2000K.

In regard to claim 11, the structure of Ota and JP '850 is inherently made by the method of claim 11.

In regard to claim 12, the second layer (4) of Ota includes all of the claimed structure of the second layer and thus inherently would be capable of filtering particles sized from 6 to 400 microns.

In regard to claim 14, as discussed above, Ota discloses a filter for gas inflators of air bag restraint systems. As disclosed in paragraph [0002], the gas generator is a solid propellant gas generator. A gas generator of this type inherently includes an ignition device and a solid gas generating agent.

7. Claims 5 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ota and JP '850 as applied to claims 1, 4, 6 - 12, and 14 above, and further in view of US Patent Application Publication No. 2003/0057687 to Nakashima et al (previously cited by examiner).

Ota and JP '850 are discussed above in section 6. Ota is used as the primary reference disclosing a filter having layers formed by wound wires. Ota, however, does not disclose sintering the wound wires together. Nakashima as discloses a filter for an air bag gas generator, as shown in figures 1 and 2. As discussed in paragraph [0041] of Nakashima, the filter (4) is formed from a wound wire and then sintered. The sintering inherently acts to cause overlapping section of the wire to bond together. One of ordinary skill in the art would reasonably expect that this step increases the strength and resistance to deformation of the filter.

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Ota and JP '850 to sinter the first and/or third layer as suggested by Nakashima in order to increase strength and deformation resistance of these layers.

Conclusion

8. Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on May 20, 2009 prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609.04(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **ROBERT A. CLEMENTE** whose telephone number is (571)272-1476. The examiner can normally be reached on M-F, 7:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Marcheschi can be reached on (571) 272-1374. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RAC
/Michael A Marcheschi/
Supervisory Patent Examiner, Art Unit 1797